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Regulatory File Cy.

March 22, 1974

Mr. Angelo Giambusso
Deputy Director for
Reactor Projects
Directorate of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, D.C. 20545

Subject: Dresden Station Units 2 and 3 - Special Report No. 37, Supplement No. 1 - Analysis of Pipe Breaks Outside Containment - AEC Dkts 50-237 and 50-249

Dear Mr. Giambusso:

Attached is Dresden Station Special Report No. 37, Supplement No. 1. This report supplements Dresden Station Special Report No. 37 submitted January 23, 1974 and is submitted in response to and in accordance with your letter dated December 14, 1972 concerning this subject. High Pressure Coolant Injection (HPCI) System, Isolation Condenser System and Reactor Water Cleanup System pipe breaks are analyzed in this supplement.

The report indicates certain plant modifications would be required to comply fully with your guidelines that the plant be capable of safe shutdown in the event of any postulated complete instantaneous severance of a HPCI, Isolation Condenser, and Reactor Water Cleanup line. We recommend that none of the modifications identified in the report be implemented for the following reasons. While piping leaks are credible, we do not consider instantaneous rupture of such piping to be a credible event. Moreover, General Electric Company indicated in Reports GEAP-10207-23, 25 and 27, entitled "Reactor Primary Coolant System Rupture Study" that the probability of severance of the type of piping considered is 0.053 severances per reactor per 40 years. This leads to the conclusion that approximately one (1) severance would be expected per 1,000 reactor-years. Based on this probability only, it is clear that any severance of power plant grade piping is highly unlikely. The significance

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of such postulated pipe breaks is further reduced at Dresden Station Units 2 and 3; because of the total number of break locations considered for these systems, only four (4) result in consequences unacceptable by your guidelines. These factors lead to the conclusion that "backfitting" of your pipe break outside containment guidelines to Dresden Units 2 and 3 will not significantly improve public health and safety.

The postulated events which could possibly restrict safe plant shutdown using your guidelines are identified in the last paragraph of Section 14, Page 51 of the attached report. These modifications would ensure the integrity of the primary containment suppression chamber, of certain essential service switchgear and of one of the redundant low pressure coolant injection system suppression chamber spray initiation valves on Unit 2 only. Except in the event of a postulated loss of coolant accident, only the essential service switchgear is necessary for safe plant shutdown.

These modifications are required as a result of postulated pipe breaks in the HPCI and Isolation Condenser Systems. Since these systems were built to safeguard standards, postulation of a coincident pipe break outside the primary containment in the HPCI or Isolation Condenser System and a loss of coolant accident is incredible. On this basis, if your pipe break outside containment guidelines are backfitted to the Dresden Piping systems analyzed in the attached Supplement 1, the only modification required to ensure safe plant shutdown is Item 7-4 on Page 32.

In the letter to you dated January 23, 1974 concerning this subject, it was indicated that for certain complete instantaneous severances of the main steam lines, modifications to protect certain electrical cable trays would be considered based on an evaluation of the function of the cables. This evaluation is continuing and the results and conclusions will be reported to you as soon as it is completed. This delay in completing the evaluation will not delay any plant modifications which might be required; because the information necessary to develop the design of protective modifications is proceeding.

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This report has received both On-Site and Off-Site review and approval.

One (1) signed original and 39 copies of this report are submitted for your review.

Very truly yours,

J. S. Abel
Nuclear Licensing Administrator
Boiling Water Reactors

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